

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Murphy et al.

Application No.: To be assigned

Group Art Unit: To be assigned

Filed: April 27, 1999

Examiner: To be assigned

For: Nr-CAM GENE, NUCLEIC ACIDS AND
NUCLEIC ACID PRODUCTS FOR
THERAPEUTIC AND DIAGNOSTIC
USES FOR TUMORS

Attorney Docket No.: 8511-021

TRANSMITTAL OF SEQUENCE LISTING UNDER 37 C.F.R. § 1.821

Assistant Commissioner for Patents
Washington, D.C. 20231


Sir:

In accordance with 37 C.F.R. § 1.821, Applicant, in connection with the
above-identified patent application, submits herewith a Sequence Listing in paper and
computer readable form pursuant to 37 C.F.R. §§ 1.821(c) and (e).

I hereby state that the content of the paper and computer readable copies of the
Sequence Listing, submitted in accordance with 37 C.F.R. §§ 1.821(c) and (e), respectively,
are the same.

Respectfully submitted,

Date: April 27, 1999


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New York, New York 10036-2711
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Enclosure

SEQUENCE LISTING

<110> Murphy, Gerald P.
Boynton, Alton L.
Sehgal, Anil

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FOR THERAPEUTIC AND DIAGNOSTIC USES FOR TUMORS

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Leu	Lys	Asp	Asn	Arg	Glu	Leu	Pro	Ser	Asp	Glu	Arg	Phe	Thr	Val	Asp	
			580					585				590				
Lys	Asp	His	Leu	Val	Val	Ala	Asp	Val	Ser	Asp	Asp	Asp	Ser	Gly	Thr	
	595						600					605				
Tyr	Thr	Cys	Val	Ala	Asn	Thr	Thr	Leu	Asp	Ser	Val	Ser	Ala	Ser	Ala	
	610					615					620					
Val	Leu	Ser	Val	Val	Ala	Pro	Thr	Pro	Thr	Pro	Ala	Pro	Val	Tyr	Asp	
625					630					635				640		
Val	Pro	Asn	Pro	Pro	Phe	Asp	Leu	Glu	Leu	Thr	Asp	Gln	Leu	Asp	Lys	
				645					650					655		
Ser	Val	Gln	Leu	Ser	Trp	Thr	Pro	Gly	Asp	Asp	Asn	Asn	Ser	Pro	Ile	
			660					665					670			
Thr	Lys	Phe	Ile	Ile	Glu	Tyr	Glu	Asp	Ala	Met	His	Lys	Pro	Gly	Leu	
		675					680					685				
Trp	His	His	Gln	Thr	Glu	Val	Ser	Gly	Thr	Gln	Thr	Thr	Ala	Gln	Leu	
	690					695					700					

Lys	Leu	Ser	Pro	Tyr	Val	Asn	Tyr	Ser	Phe	Arg	Val	Met	Ala	Val	Asn	
705					710					715					720	
Ser	Ile	Gly	Lys	Ser	Leu	Pro	Ser	Glu	Ala	Ser	Glu	Gln	Tyr	Leu	Thr	
				725					730					735		
Lys	Ala	Ser	Glu	Pro	Asp	Lys	Asn	Pro	Thr	Ala	Val	Glu	Gly	Leu	Gly	
			740					745					750			
Ser	Glu	Pro	Asp	Asn	Leu	Glu	Ile	Thr	Trp	Lys	Pro	Leu	Asn	Gly	Phe	
		755					760					765				
Glu	Ser	Asn	Gly	Pro	Gly	Leu	Gln	Tyr	Lys	Val	Ser	Trp	Arg	Gln	Lys	
	770					775					780					
Asp	Gly	Asp	Asp	Glu	Trp	Thr	Ser	Val	Val	Val	Ala	Asn	Val	Ser	Lys	
785					790					795					800	
Tyr	Ile	Val	Ser	Gly	Thr	Pro	Thr	Phe	Val	Pro	Tyr	Leu	Ile	Lys	Val	
				805					810					815		
Gln	Ala	Leu	Asn	Asp	Met	Gly	Phe	Ala	Pro	Glu	Pro	Ala	Val	Val	Met	
			820					825					830			
Gly	His	Ser	Gly	Glu	Asp	Leu	Pro	Met	Val	Ala	Pro	Gly	Asn	Val	Arg	
		835					840					845				
Val	Asn	Val	Val	Asn	Ser	Thr	Leu	Ala	Glu	Val	His	Trp	Asp	Pro	Val	
	850					855					860					
Pro	Leu	Lys	Ser	Ile	Arg	Gly	His	Leu	Gln	Gly	Tyr	Arg	Ile	Tyr	Tyr	
865					870					875					880	
Trp	Lys	Thr	Gln	Ser	Ser	Ser	Lys	Arg	Asn	Arg	Arg	His	Ile	Glu	Lys	
				885					890					895		
Lys	Ile	Leu	Thr	Phe	Gln	Gly	Ser	Lys	Thr	His	Gly	Met	Leu	Pro	Gly	
			900					905					910			
Leu	Glu	Pro	Phe	Ser	His	Tyr	Thr	Leu	Asn	Val	Arg	Val	Val	Asn	Gly	
		915					920					925				
Lys	Gly	Glu	Gly	Pro	Ala	Ser	Pro	Asp	Arg	Val	Phe	Asn	Thr	Pro	Glu	
	930					935					940					
Gly	Val	Pro	Ser	Ala	Pro	Ser	Ser	Leu	Lys	Ile	Val	Asn	Pro	Thr	Leu	
945					950					955					960	
Asp	Ser	Leu	Thr	Leu	Glu	Trp	Asp	Pro	Pro	Ser	His	Pro	Asn	Gly	Ile	
				965					970					975		
Leu	Thr	Glu	Tyr	Thr	Leu	Lys	Tyr	Gln	Pro	Ile	Asn	Ser	Thr	His	Glu	
			980					985					990			
Leu	Gly	Pro	Leu	Val	Asp	Leu	Lys	Ile	Pro	Ala	Asn	Lys	Thr	Arg	Trp	
		995					1000					1005				

Thr Leu Lys Asn Leu Asn Phe Ser Thr Arg Tyr Lys Phe Tyr Phe Tyr
 1010 1015 1020
 Ala Gln Thr Ser Ala Gly Ser Gly Ser Gln Ile Thr Glu Glu Ala Val
 025 1030 1035 1040
 Thr Thr Val Asp Glu Ala Gly Ile Leu Pro Pro Asp Val Gly Ala Gly
 1045 1050 1055
 Lys Val Gln Ala Val Asn Thr Arg Ile Ser Asn Leu Thr Ala Ala Ala
 1060 1065 1070
 Ala Glu Thr Tyr Ala Asn Ile Ser Trp Glu Tyr Glu Gly Pro Glu His
 1075 1080 1085
 Val Asn Phe Tyr Val Glu Tyr Gly Val Ala Gly Ser Lys Glu Glu Trp
 1090 1095 1100
 Arg Lys Glu Ile Val Asn Gly Ser Arg Ser Phe Phe Gly Leu Lys Gly
 1105 1110 1115 1120
 Leu Met Pro Gly Thr Ala Tyr Lys Val Arg Val Gly Ala Val Gly Asp
 1125 1130 1135
 Ser Gly Phe Val Ser Ser Glu Asp Val Phe Glu Thr Gly Pro Ala Met
 1140 1145 1150
 Ala Ser Arg Gln Val Asp Ile Ala Thr Gln Gly Trp Phe Ile Gly Leu
 1155 1160 1165
 Met Cys Ala Val Ala Leu Leu Ile Leu Ile Leu Leu Ile Val Cys Phe
 1170 1175 1180
 Ile Arg Arg Asn Lys Gly Gly Lys Tyr Pro Val Lys Glu Lys Glu Asp
 1185 1190 1195 1200
 Ala His Ala Asp Pro Glu Ile Gln Pro Met Lys Glu Asp Asp Gly Thr
 1205 1210 1215
 Phe Gly Glu Tyr Ser Asp Ala Glu Asp His Lys Pro Leu Lys Lys Gly
 1220 1225 1230
 Ser Arg Thr Pro Ser Asp Arg Thr Val Lys Lys Glu Asp Ser Asp Asp
 1235 1240 1245
 Ser Leu Val Asp Tyr Gly Glu Gly Val Asn Gly Gln Phe Asn Glu Asp
 1250 1255 1260
 Gly Ser Phe Ile Gly Gln Tyr Ser Gly Lys Lys Glu Lys Glu Pro Ala
 1265 1270 1275 1280
 Glu Gly Asn Glu Ser Ser Glu Ala Pro Ser Pro Val Asn Ala Met Asn
 1285 1290 1295
 Ser Phe Val

<210> 3

<211> 38
<212> DNA
<213> Homo sapiens

<400> 3
tctcatacta tgaacatatg ggtagagagt atattttc 38

<210> 4
<211> 123
<212> DNA
<213> Rattus norvegicus

<400> 4
tctcatacta tggacatatg ggtagaaaga atgttttctg cggatatatga gtattataag 60
aacagagcaa gaacataact cagtcagtca gatgatacgt taatatgaac tggggtgaaa 120
agg 123

<210> 5
<211> 176
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: clone D4-1

<400> 5
tctcatacta tgaacatatg ggtagagagt atattttctg ctgtatgtta gtattatgag 60
aatagttaca gcaaaaacat aactcagtca aagtatatgt taatatgaac tggaatgcaa 120
aagtgcatac tttttcattc aaaatgggta ttcttgattt cctaaaaaaaa aaaaaa 176

<210> 6
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 6
tagatacaac tagtcaatgc ctctaataa tatggata 38

<210> 7
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 7

agatagatcc gcggaatagt aaatccgata gccttgta

38

<210> 8
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<220>
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<222> (1)
<223> n=a, c, g, or t

<400> 8
ngctgctctc atact

15

<210> 9
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 9
aacatatggg tagagagtat attt

24

<210> 10
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 10
ctttgcattc cagttcatat taa

23

<210> 11
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 11
tgtggtgaca gatcacggct

20

<210> 12
<211> 21

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 12
cagctcaaac ctgtgatttc c

21

<210> 13
<211> 60
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 13
aatagggtatt ggtgaattta aagactcact ctccataaat gctacgaata ttaaactt 60

<210> 14
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 14
cggagcaata tgaaatgatc t

21

<210> 15
<211> 19
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 15
gcaaatacag ctcctattg

19

<210> 16
<211> 43
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 16
gctgtatggtt agtattatga gaatagttac agcaaaaaca taa

43

<210> 17
 <211> 40
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 17
 taggcctgac tggcattgta ttagcaaact catcactaga 40

 <210> 18
 <211> 37
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 18
 tagatacaac tagtctaattg cagcttaaaa taatgcc 37

 <210> 19
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 19
 agatagatcc gcggatatcc atattcatta gaggcattg 39

 <210> 20
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 20
 tagatacaac tagtcaatgc ctctaataa tatggata 38

 <210> 21
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 21
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<210> 22
 <211> 61
 <212> DNA
 <213> Homo sapiens

 <220>
 <223> Description of Artificial Sequence: primer

 <400> 22
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 c 61

 <210> 23
 <211> 19
 <212> DNA
 <213> Homo sapiens

 <400> 23
 cattagcatc ttaactcct 19

 <210> 24
 <211> 21
 <212> DNA
 <213> Homo sapiens

 <400> 24
 tcggcattat tttaagctgc a 21

 <210> 25
 <211> 17
 <212> DNA
 <213> Homo sapiens

 <400> 25
 gcagataagc gcttctt 17

 <210> 26
 <211> 20
 <212> DNA
 <213> Homo sapiens

 <400> 26
 actagagata cagatcatat 20

 <210> 27
 <211> 20
 <212> DNA
 <213> Homo sapiens

 <400> 27
 catatacgat cgatcgatgc 20

<210> 28
<211> 20
<212> DNA
<213> Homo sapiens

<400> 28
gatagtgtg atcgatgcta

20

<210> 29
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 29
catacgaatt ctagatacaa ctagtctaata gcagcttaaa ataatgcc

48

<210> 30
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 30
agatagatcc gcggatatcc atattcatta gaggcattgg gatcccatatc

50

<210> 31
<211> 1371
<212> DNA
<213> Homo sapiens

<400> 31
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atgattagtgt cactggaagt acctcttgat ccaaaacttc ttgaagactt ggtacagcct 120
ccaaccatca cccaacagtc tccaaaagat tacattattg accctcggga gaatattgta 180
atccagtgtg aagccaaagg gaaaccgccc ccaagctttt cctggacccg taatgggact 240
catttttgaca tcgataaaga ccctctgggc accatgaagc ctggcacagg aacgctcata 300
attaacatca tgagcgaagg gaaagctgag acctatgaag gagtctatca gtgtacagca 360
aggaacgaac gcggagctgc agtttctaata aacattgttg tccgcccata cagatcacca 420
ttgtggacca aagaaaaact tgaaccaatc acacttcaaa gtggtcagtc ttagtactt 480
ccctgcagac cccaattgg attaccacca cctataatat tttggatgga taattccttt 540

caaagacttc cacaaagtga gagagtttct caaggtttga atggggacct ttatttttcc 600
 aatgtcctcc cagaggacac ccgcgaagac tatatctggt atgctagatt taatcatact 660
 caaaccatac agcagaagca acctatttct gtgaagggtga tttcagtgga tgaattgaat 720
 gacactatag ctgctaattt gagtgcact gagttttatg gtgctaaatc aagtagagag 780
 aggccacca cttttttaac tccagaaggc aatgcaagta acaaagagga attaagagga 840
 aatgtgcttt cactggagtg cattgcagaa ggactgcta cccaattat ttactgggca 900
 aaggaagatg gaatgctacc caaaaacagg acagtttata agaactttga gaaaaccttg 960
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 ttaggagcca tccaccatac ctttctggt agagttaaag cggctccata ctggatcaca 1080
 gcccctcaaa atcttgtgct gtccccagga gaggatggga ccttgatctg cagagctaata 1140
 ggcaacccca aaccagaat tagctgggtta acaaatggag tccaataga aattgccct 1200
 gatgaccca gcagaaaaat agatggcgat accattattt tttcaaagt tcaagaaaga 1260
 tcaagtgcag tatatcagt caatgcctct aatgaatatg gatatttact ggcaaacgca 1320
 tttgtaaagt tgctggctga gccaccacga atcctcacac ctgcaaacac a 1371

<210> 32
 <211> 1371
 <212> DNA
 <213> Rattus norvegicus

<400> 32
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 atgatcagcg ctctggatgt tctcttgat ccaaagctcc ttgatgactt ggtacagcct 120
 ccaactatca ctcaacagtc accaaaagac tacatcattg acccagggga gaatattgta 180
 atccaatgtg aggccaaagg gaaacctcct ccaagctttt cctggactcg taacggaaca 240
 ctttttgaca tagacaaaga ccctctggtc actatgaagc ctggctcagg aacccttgtc 300
 atcaacatca tgagtgaagg aaaggcggag acctatgaag gggtttacca gtgcactgca 360
 aggaatgagc gcggagctgc tgtctccaat aacattgttg tccgcccctc taggtcacc 420
 ttgtggacca aggaaagact tgaaccaata atcctccgaa gtggctcagtc actagtacta 480
 ccatgtaggc ctccaattgg attaccaccg gccataatat tttggatgga taactccttt 540
 caaagactgc cacagagtga gcgggtttcc caaggactga atggagacct ttacttctcc 600
 aatgtcctcc cagaggacac ccgtgaggac tacatctgct atgccagatt taatcacact 660
 caaacaattc aacagaaaca acctatttct ctgaagggtga tttcagtgga tgaattgaat 720

